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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/017,145	12/14/2001	John Shanklin	BSA 02-04	2640

7590

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EXAMINER

SAIDHA, TEKCHAND

ART UNIT

PAPER NUMBER

1652

DATE MAILED: 03/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/017145

Applicant(s)

Shanklin et al.

Examiner

T. Saidha

Group Art Unit

1652

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—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

☒ Responsive to telephonic election communication(s) filed on March 4, 2003

☐ This action is FINAL.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

☒ Claim(s) 1-59 is/are pending in the application.

Of the above claim(s) 6-29 & 32-59 is/are withdrawn from consideration.

☐ Claim(s) is/are allowed.

☒ Claim(s) 1-5 & 30-31 is/are rejected.

☐ Claim(s) is/are objected to.

☒ Claim(s) 1-59 are subject to restriction or election requirement.

Application Papers

- ☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

- ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
 - ☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been received.
 - ☐ received in Application No. (Series Code/Serial Number) _____.
 - ☐ received in this national stage application from the International Bureau (PCT Rule 1.7.2(a)).

*Certified copies not received: _____

Attachment(s)

- ☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____ ☐ Interview Summary, PTO-413
- ☒ Notice of Reference(s) Cited, PTO-892 ☐ Notice of Informal Patent Application, PTO-152
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948 ☐ Other _____

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DETAILED ACTION

1. *Restriction/Election*

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-5 & 30-31, drawn to a mutant or modified Δ^9 -18:0-ACP desaturase, classified in class 435, subclass 189.
 - II. Claims 6-29 & 32-39, drawn to a DNA expression construct encoding mutants or modified Δ^9 -18:0-ACP desaturase, vector and host cells and transgenic plant comprising the DNA construct, classified in class 800, subclass 276.
 - III. Claims 40-59, drawn to a method of altering the function of a protein, which is a mutants or modified Δ^9 -18:0-ACP desaturase, classified in class 435, subclass 440.
2. The DNA of Group II and modified Δ^9 -18:0-ACP desaturase (enzyme) of Group I are chemically and biologically distinct molecules. The enzyme and DNA have fundamentally different molecular structure, each with its own set of functionality. Enzyme, for example is biologically active, whereas DNA encoding the enzyme, is not. Additionally, the DNA constitutes the genetic material and is composed of the genes, and has other functions besides encoding the enzyme. Since the desaturase and the DNA are biologically and chemically distinct, the manner of using the DNA may not necessarily involve the enzyme. At the minimum, the enzyme can be used to delineate molecular weight parameters in protein gel electrophoresis whereas the DNA can be used in hybridization protocols.

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3. Invention II is related to invention III as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make another and materially different product, or (2) that the product as claimed can be made by another and materially different process (MPEP 806.05(f)). In the instant case, the product claimed, viz., DNA, can be used in another distinct process such as recombinant expression of the enzyme or in hybridization protocol, processes distinct from the method of altering the function of the desaturase. Therefore, the inventions are distinct.

4. The product of Invention I is not used in the method of Invention III using the protein with altered function. Therefore, Inventions I and III are patentably distinct.

5. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

6. During a telephone conversation with Christine L. Brakel on March 4, 2003 a provisional election was made without traverse to prosecute the invention of Group I, claims **1-5 & 30-31**. Affirmation of this election must be made by applicant in replying to this Office action. Claims **6-29 & 32-59** are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

7. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventor ship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any

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amendment of inventor ship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

8. Accordingly claims 1-5 & 30-31 are under consideration in this examination.

9. ***Drawings***

Applicants drawing submitted in this application has been approved by the Draftsman.

10. ***Oath/Declaration***

The request to correct the inventor ship of this nonprovisional application under 37 CFR 1.48(a) is deficient because:

37 CFR 1.48 Correction of inventor ship

(a) If the correct inventor or inventors are not named in a nonprovisional application through error without any deceptive intention on the part of the actual inventor or inventors, the application may be amended to name only the actual inventor or inventors. Such amendment must be diligently made and must be accompanied by: 2 and 4 as defined below.

(1) a petition including a statement of facts verified by the original named inventor or inventors establishing when the error without deceptive intention was discovered and how it occurred;

(2) an oath or declaration by each actual inventor or inventors as required by § 1.63;

(3) the fee set forth in § 1.17(h); and

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(4) the written consent of any assignee. When the application is involved in an interference, the petition shall comply with the requirements of this section and shall be accompanied by a motion under § 1.634.

The oath or declaration is defective because : the oath is not signed by the newly added inventor 'Edward J. Whittle'. A new oath/declaration is required.

11. *Specification*

The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

12. *Claim Rejections - 35 U.S.C. § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

Claims 1-5 & 30-31 are rejected under 35 U.S.C. 102(b) as being anticipated by Cahoon et al. [PNAS 94 : 4872-4877, May 1997]. Cahoon et al. teach castor mutants or modified Δ^9 -18:0-ACP desaturase and the crystallographic model of the active sites and variants or mutants. Characterization of specific mutants at positions 114, 117, 118, 179, 181 & 188 are also taught (see the entire

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document, especially abstract, Fig. 3, and page 4875-column 2). All the elements of the claims been taught, the reference anticipates the claims.

13. Claims 1-5 & 30-31 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S.P. 5,705,391 (Cahoon et al., Jan 6, 1998). Cahoon et al. teach mutants or modified Δ^9 -18:0-ACP desaturase (see column 4, last paragraph) at the identified contact residues M114, L115, T117, L118, G188 & F189. The reference anticipates the claims.

14. Claims 1-5 & 30-31 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S.P. 5,888,790 (Cahoon et al., filed May 9, 1997). Cahoon et al. teach mutants or modified Δ^9 -18:0-ACP desaturase (see claims 10-12) at the identified contact residues M114, L115, T117, L118, G188 & F189. The claims are drawn to any amino acid substitution at the positions indicated and encompass the specific amino acid substitution(s) claimed. All the limitations being taught, the reference anticipates the claims.

15. ***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

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Claims 1-5 & 30-31 are rejected under the judicially created doctrine of double patenting over claims 10-12 of U. S. Patent No. 5,888,790, since the claims, if allowed, would improperly extend the "right to exclude" already granted in the patent. The subject matter claimed in the instant application is fully disclosed in the patent and is covered by the patent since the patent and the application are claiming common subject matter, as follows: Cahoon et al. teach mutants or modified Δ^9 -18:0-ACP desaturase (see claims 10-12) at the identified contact residues M114, L115, T117, L118, G188 & F189. The claims are drawn to any amino acid substitution at the positions indicated and encompass the specific amino acid substitution(s) claimed. All the limitations being taught, the reference anticipates the claims.

16. Claims 1-5 & 30-31 are provisionally rejected under the judicially created doctrine of double patenting over claims 28-42 of copending Application No. 09/988929. This is a provisional double patenting rejection since the conflicting claims have not yet been patented.

The subject matter claimed in the instant application is fully disclosed in the referenced copending application and would be covered by any patent granted on that copending application since the referenced copending application and the instant application are claiming common subject matter, as follows: A castor specific mutants or specific modified Δ^9 -18:0-ACP desaturase having 14 or 16-carbon specificity.

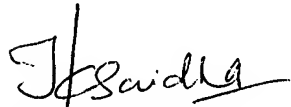
17. No claim is allowed.

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18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tekchand Saidha (Ph.D.) whose telephone number is (703) 305-6595. The examiner can normally be reached on Monday-Friday from 8:15 am to 4:45 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ponnathapu Achutamurthy, can be reached at (703) 308-3804. The fax phone number for this Group in the Technology Center is (703) 308-0294.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0196.



Tekchand Saidha
Primary Examiner, Art Unit 1652
March 18, 2003